AVIAN DISEASES 39:933–940, 1995

CONTENTS—JANUARY–MARCH 1995

Mitogenic responses of the head-associated lymphoid tissues of the chicken
D. M. MASLAK AND D. L. REYNOLDS 1

Association between pathogenicity of infectious bursal disease virus and viral antigen distribution detected by immunohistochemistry
NOBUHIKO TANIMURA, KENJI TSUKAMOTO, KIKUYASU NAKAMURA, MINORU NARITA, AND MINORU MAEDA 9

Comparison of prophylactic and therapeutic efficacy of Salmonella enteritidis-immune lymphokines against Salmonella enteritidis organ invasion in neonatal leghorn chicks
EDWARD D. MCGRUDER, MICHAEL H. KOGUT, DONALD E. CORRIER, JOHN R. DELOACH, AND BILLY M. HARGIS 21

Detection of specific antibodies directed against a consistently expressed surface antigen of Mycoplasma gallisepticum using a monoclonal blocking enzyme-linked immunosorbent assay
GY. CZIFRA, S. H. KLEVEN, B. ENGSTRÖM, AND L. STIPKOVITS 28

Effects on turkey poults of feeding Fusarium moniliforme M-1325 culture material grown under different environmental conditions
TANDICE WEIBKING, DAVID R. LEDOUX, ALEX J. BERMUDEZ, JAMES R. TURK, AND GEORGE E. ROTTINGHAUS 32

Prevalence of Salmonella in broiler flocks: Effect of litter water activity, house construction, and watering devices
LEWIS E. CARR, E. T. MALLINSON, C. R. TATE, R. G. MILLER, E. RUSSEK-COHEN, L. E. STEWART, O. O. OPARA, AND S. W. JOSEPH 39

Isolation of Salmonella from poultry tissue and environmental samples: a nationwide survey
W. DOUGLAS WALTMAN AND EDWARD T. MALLINSON 45

Microbiological analysis of the early Salmonella enteritidis infection in molted and unmolted hens
PETER S. HOLT, NICHOLAS P. MACRI, AND ROBERT E. PORTER, JR. 55

Presence of avian influenza virus (AIV) subtypes H5N2 and H7N1 in emus (Dromaius novaehollandiae) and rheas (Rhea americana): virus isolation and serologic findings
B. PANIGRAHY, D. A. SENNE, AND J. E. PEARSON 64

Effect of T-lymphocyte depletion on the pathogenesis of marble spleen disease virus infection in ring-necked pheasants ..... S. D. FITZGERALD, W. M. REED, A. M. FURUKAWA, E. ZIMELS, AND L. FUNG 68

Comparative pathology of intravenously inoculated wild duck- and turkey-origin type A influenza viruses in chickens
D. E. SWAYNE AND R. D. SLEMONS 74

An enzyme-linked immunosorbent assay for detection of avian mycoplasmas in culture ..... Boutheina Ben Abdelmoumen and R. S. Roy 85

Serotypes and DNA fingerprint profiles of Pasteurella multocida isolated from raptors ..... M. A. Wilson, R. M. Duncan, G. E. Nordholm, and B. M. Berlowski 94

Induction of tibial dyschondroplasia and suppression of cell-mediated immunity in chickens by Fusarium oxysporum grown on sterile corn
Qili Chu, Weidong Wu, Mark E. Cook, and Eugene B. Smalley 100

Physiologic and electrocardiographic changes occurring in broilers reared at simulated high altitude ..... R. L. Owen, R. F. Wideman, Jr., R. M. Leach, B. S. Cowen, P. A. Dunn, and B. C. Ford 108

Characteristics of Escherichia coli isolates from avian cellulitis
S. M. Peighambari, J.-P. Vaillancourt, R. A. Wilson, and C. L. Gyles 116

Escherichia coli cellulitis: experimental infections in broiler chickens
S. M. Peighambari, R. J. Julian, J.-P. Vaillancourt, and C. L. Gyles 125

Immunosuppression and intracellular calcium signaling in splenocytes from chicks infected with chicken anemia virus, CL-1 isolate
Denise I. Bounous, Mark A. Goodwin, Randolph L. Brooks, Jr., Chinta M. Lamichhane, Raymond P. Campagnoli, John Brown, and David B. Snyder 135

Research Notes—

Consumptive coagulopathy in turkeys exposed to Pasteurella multocida
Ronald C. Friedlander and LeRoy D. Olson 141

Incidence of Pasteurella multocida in poultry house cats used for rodent control programs ..... Francene Van Sambeek, Birch L. McMurray, and R. Kenny Page 145

Incidence of campylobacters in the intestine of avian species in Alabama
Omar A. Oyarzabal, Donald E. Conner, and Frederic J. Hoerr 147

Formaldehyde vaporization in the hatcher and the effect on tracheal epithelium of the chick
J. E. Sander, J. L. Wilson, G. N. Rowland, and P. J. Middendorf 152

Case Reports—

Salt toxicosis in commercial turkeys
D. P. Wages, M. D. Ficken, M. E. Cook, and J. Mitchell 158

Hypoglycemia, enteritis, and spiking mortality in Georgia broiler chickens: experimental reproduction in broiler breeder chicks
James F. Davis, A. E. Castro, J. C. de la Torre, C. G. Scanes, S. V. Radecki, R. Vasillatos-Younken, J. T. Doman, and M. Teng 162

Intralesional herpesvirus, reovirus-like particles, and bacteria in a flock of broiler chicks with spiking mortality, diarrhea, and enterotyphlitis
MARK A. GOODWIN, E. CRAIG PLAYER, AND DANNY L. MAGEE 175

Effect of calcium/phosphorus imbalance in the ration on flock performance in two broiler flocks in north Georgia
M. L. EWING, W. W. HEWAT, R. W. GILBERT, J. E. SANDER, AND T. P. BROWN 179

Enteritis in turkeys associated with an unusual flagellated protozoan (Cochlosoma anatis) ..... G. L. COOPER, H. L. SHIVAPRASAD, A. A. BICKFORD, R. NORDHAUSEN, R. J. MUNN, AND J. S. JEFFREY 183

Erysipelas in quail and suspected erysipeloid in processing plant employees
AHMED MUTALIB, ROBERT KEIRS, AND FRANK AUSTIN 191

Mycotic rhinitis in an ostrich .... S. D. FITZGERALD AND P. G. MOISAN 194

Intestinal smooth muscle hyperplasia in a rhea (Rhea americana)
M. M. PRANTNER 197

Epicardial keratinaceous cyst in a tawny frogmouth (Podargus strigoides plumiferus) ..... M. PUETTE, K. S. LATIMER, AND T. M. NORTON 201

Pet Bird Medicine: Case Report—
Central nervous system toxoplasmosis in roller canaries
D. S. LINDSAY, R. B. GASSER, K. E. HARRIGAN, D. N. MADILL, AND B. L. BLAGBURN 204

Guidelines for Authors 208

CONTENTS—APRIL–JUNE 1995

Field safety and efficacy of in ovo administration of HVT + SB-1 bivalent Marek's disease vaccine in commercial broilers
G. SARMA, W. GREER, R. P. GILDERSLEEVE, D. L. MURRAY, AND A. M. MILES 211

Efficacy of three live vaccines against highly virulent infectious bursal disease virus in chickens with or without maternal antibodies
KENJI TSUKAMOTO, NOBUHIKO TANIMURA, SHIN-ICHIRO KAKITA, KOJI OTA, MASAJI MASE, KUNITOSHI IMAI, AND HIROSHI HIHARA 218

Cell-mediated and humoral immune responses in chickens infected with Salmonella typhimurium
M. LESSARD, D. L. HUTCHINGS, AND J. L. SPENCER 230

Horizontal transmission of Salmonella enteritidis in molted and unmolted laying chickens ..... PETER S. HOLT 239

Antigenic relatedness between seven avian Mycoplasma species as revealed by Western blot analysis ..... B. Ben Abdelmoumen and R. S. Roy 250

Effect of isolation and sanitation on the recovery of F-strain Mycoplasma gallisepticum from chronically infected hens held in biological isolation units ..... Jesse E. Brown, S. L. Branton, and J. D. May 263

Characteristics of CVI988/Rispens and R2/23, two prototype vaccine strains of serotype 1 Marek's disease virus
R. L. Witter, L. F. Lee, and A. M. Fadly 269

Effect of oxygen level on ascites incidence and performance in broiler chicks
A. Beker, S. L. Vanhooser, and R. G. Teeter 285

Gangliosidosis in emus (Dromaius novaehollandiae)
A. J. Bermudez, G. C. Johnson, M. T. Vanier, M. Schröder, K. Suzuki, P. L. Stogsdill, G. S. Johnson, D. O'Brien, C. P. Moore, and W. W. Fry 292

Phenotypic and molecular characterization of V-factor (NAD)-independent Haemophilus paragallinarum ..... J. K. Miflin, R. F. Horner, P. J. Blackall, X. Chen, G. C. Bishop, C. J. Morrow, T. Yamaguchi, and Y. Iritani 304

Synergism of lactate and succinate as metabolites utilized by Veillonella to inhibit the growth of Salmonella typhimurium and Salmonella enteritidis in vitro ..... Arthur Hinton, Jr., and Michael E. Hume 309

Salmonella colonization and shedding patterns of hens inoculated via semen
M. A. Reiber, D. E. Conner, and S. F. Bilgili 317

Effect of mating activity on the ability of Salmonella enteritidis to persist in the ovary and oviduct of chickens .... M. A. Reiber and D. E. Conner 323

Astrovirus infection in hatchling turkeys: histologic, morphometric, and ultrastructural findings
Mari L. Thouvenelle, Joseph S. Haynes, and Don L. Reynolds 328

Experimental transmission of eastern equine encephalitis virus and Highlands J virus via semen of infected tom turkeys
James S. Guy, Thomas D. Siopes, H. John Barnes, Lynda G. Smith, and William H. Emory 337

Astrovirus infection in hatchling turkeys: alterations in intestinal maltase activity ..... Mari L. Thouvenelle, Joseph S. Haynes, Jerry L. Sell, and Don L. Reynolds 343

A time-course study of the transfer of immunoglobulin G from blood to tracheal and lacrimal secretions in young turkeys
P. Suresh and L. H. Arp 349

Campylobacter bacteria in breeder flocks ..... W. F. Jacobs-Reitsma 355

Bordetella avium: an opportunistic pathogen in leghorn chickens
MARK W. JACKWOOD, STEVE M. MCCARTER, AND THOMAS P. BROWN 360

A Salmonella-specific DNA probe and its use in Southern hybridization for differentiation of Salmonella enteritidis
M. I. KHAN AND A. V. NGUYEN 368

The effects of dietary lactose and rye on cecal colonization of Clostridium perfringens in chicks ..... T. TAKEDA, T. FUKATA, T. MIYAMOTO, K. SASAI, E. BABA, AND A. ARAKAWA 375

Identification of transforming growth factor-β and interleukin-6 in chicken ascites fluid ..... NARAYAN C. RATH, WILLIAM E. HUFF, GERALDINE R. BAYYARI, AND JANICE M. BALOG 382

In ovo pathogenicity of Mycoplasma iners strain Oz
P. S. WAKENELL, A. J. DAMASSA, AND R. YAMAMOTO 390

Species identification of avian mycoplasmas by polymerase chain reaction and restriction fragment length polymorphism analysis
H. H. FAN, S. H. KLEVEN, M. W. JACKWOOD, K.-E. JOHANSSON, B. PETTERSSON, AND S. LEVISOHN 398

Light and electron microscopic lesions in peripheral nerves of broiler chickens due to roxarsone and lasalocid toxicoses
D. G. GREGORY, S. L. VANHOOSER, AND E. L. STAIR 408

Research Notes—

Markedly reduced pancreatic glucagon levels in broiler chickens with spiking mortality syndrome
JAMES F. DAVIS AND REGINA VASILATOS-YOUNKEN 417

Effect of formaldehyde exposure in the hatcher and of ventilation in confinement facilities on broiler performance
JEAN E. SANDER, JEANNA L. WILSON, AND GARRETT L. VAN WICKLEN 420

Comparison of four fixatives for routine splenic histology and immunohistochemical staining for group II avian adenovirus
SCOTT D. FITZGERALD AND AMY RICHARD 425

Comparison of Chemstrip bG® visual blood glucose method with Accu-Chek III monitor method for measuring blood glucose in broiler chicks
MARK A. GOODWIN, DENISE I. BOUNOUS, JOHN BROWN, AND DEBRAH W. FUCHS 432

Case Reports—

Sarcocystis-associated encephalitis in chickens
A. MUTALIB, R. KEIRS, W. MASLIN, M. TOPPER, AND J. P. DUBEY 436

Deletrocephalus dimidiatus infestation in an adult rhea (Pterocnemia pennata) ..... M. L. EWING, MA. E. YONZON, R. K. PAGE, T. P. BROWN, AND W. R. DAVIDSON 441

Necrotizing herpesvirus bursitis, thymusitis, and splenitis in chickens
MARK A. GOODWIN AND ARMANDO ANTILLON R. 444

Guidelines for Authors 448

CONTENTS—JULY–SEPTEMBER 1995

The effect of plasmid acquisition on potential virulence attributes of Pasteurella multocida ..... MARGIE D. LEE AND RICHARD E. WOOLEY 451

Observations on the relationship in chickens between the virulence of some avian influenza viruses and their pathogenicity for various organs
P. T. HOOPER, G. W. RUSSELL, P. W. SELLECK, AND W. L. STANISLAWEK 458

Identification of Mycoplasma synoviae immunogenic surface proteins and their potential use as antigens in the enzyme-linked immunosorbent assay
VLADIMIR A. GUREVICH, DAVID H. LEY, JILLIAN F. MARKHAM, KEVIN G. WHITHEAR, AND IAN D. WALKER 465

Comparison of environmental monitoring protocols for the detection of Salmonella in poultry houses
S. DAVISON, C. E. BENSON, AND R. J. ECKROADE 475

Dose titration study of enrofloxacin (Baytril®) against respiratory colibacillosis in Muscovy ducks ..... I. KEMPF, F. GESBERT, M. GUITTET, R. FROYMAN, J. DELAPORTE, AND G. BENNEJEAN 480

Experimental reproduction of endocarditis with Pasteurella gallinarum in mature leghorn chickens ..... GESIT TJAHJOWATI, JAMES P. ORR, MANUEL CHIRINO-TREJO, AND JAMES H. L. MILLS 489

Comparison of neutralizing epitopes among infectious bursal disease viruses using radioimmunoprecipitation .... P. L. WHETZEL AND D. J. JACKWOOD 499

The effect of route of inoculation on protection by killed vaccines in chickens
TOSHIHIRO NAKAMURA, SUMIO HOSHI, YOJI NAGASAWA, AND SUSUMU UEDA 507

A recombinant fowlpox virus expressing the envelope antigen of subgroup A avian leukosis/sarcoma virus
KEYVAN NAZERIAN AND NOBORU YANAGIDA 514

Tissue tropism and replicative properties of waterfowl-origin influenza viruses in chickens ..... R. D. SLEMONS AND D. E. SWAYNE 521

Replication of infectious laryngotracheitis virus in a quail cell line, QT-35
WILLIAM M. SCHNITZLEIN AND DEOKI N. TRIPATHY 528

Synergism between chicken anemia virus (CAV) and avian reovirus following dual infection of 1-day-old chicks by a natural route
F. McNeilly, J. A. Smyth, B. M. Adair, and M. S. McNulty 532

Characterization of cell-mediated responses to Eimeria acervulina antigens
A. Martin, S. Awadalla, and H. S. Lillehoj 538

Effect of lactose and Lactobacillus acidophilus on the colonization of Salmonella enteritidis in chicks concurrently infected with Eimeria tenella
Z. R. Qin, T. Fukata, E. Baba, and A. Arakawa 548

A comparative study of avian reovirus pathogenicity: virus spread and replication and induction of lesions .... Yawei Ni and Maurice C. Kemp 554

The comparative virulence for chicks of Salmonella enteritidis phage type 4 isolates and isolates of phage types commonly found in poultry in the United States ..... Richard K. Gast and Steven T. Benson 567

A highly sensitive, broad-spectrum infectivity assay for infectious bursal disease virus ..... Kenji Tsukamoto, Takeshi Matsumura, Masaji Mase, and Kunitoshi Imai 575

Pasteurella multocida isolated from wild birds of North America: a serotype and DNA fingerprint study of isolates from 1978 to 1993
M. A. Wilson, R. M. Duncan, G. E. Nordholm, and B. M. Berlowski 587

DNA fingerprint analysis of standard, intermediate, and variant antigenic types of Salmonella enterica subspecies enterica serovar Gallinarum biovar pullorum ..... M. A. Wilson and G. E. Nordholm 594

Relationship of sex, age, and concurrent intestinal disease to necrotic enteritis in turkeys ..... R. Droual, T. B. Farver, and A. A. Bickford 599

Detection of Mycoplasma gallisepticum, M. synoviae, and M. iowae by multispecies polymerase chain reaction and restriction fragment length polymorphism
M. Garcia, M. W. Jackwood, S. Levisohn, and S. H. Kleven 606

Research Notes—

Evaluation of persistence and distribution of Salmonella serotype isolation from poultry farms using drag-swab sampling
D. J. Caldwell, B. M. Hargis, D. E. Corrier, L. Vidal, and J. R. DeLoach 617

Detection of proteolytic bacteria in the upper respiratory tract flora of poultry ..... B. R. Byrum and R. D. Slemons 622

Egg dipping in hydrogen peroxide solution to eliminate Salmonella typhimurium from eggshell membranes ..... Mario Padron 627

Fatty liver-hemorrhagic syndrome observed in commercial layers fed diets containing chelated minerals
S. L. Branton, B. D. Lott, W. R. Maslin, and E. J. Day 631

Relationship between body-weight gain after movement of chickens to an unfamiliar cage and response to Escherichia coli challenge infection
W. B. Gross 636

Case Reports—

Salinomycin toxicosis in male breeder turkeys
James R. Andreasen, Jr., and John H. Schleifer 638

Esophageal and proventricular cryptosporidiosis in a chicken
Mark A. Goodwin 643

Combined adenovirus and rotavirus enteritis with Escherichia coli septicemia in an emu chick (Dromaius novaehollandiae)
Murray E. Hines II, Eloise L. Styer, Charles A. Baldwin, and John R. Cole, Jr. 646

Apparent selenium toxicity in emus (Dromaius novaehollandiae)
L. L. Kinder, C. R. Angel, and N. B. Anthony 652

Esophagitis due to a herpesvirus associated with mortality in a psittacine aviary ..... M. T. Cheeseman and C. Riddell 658

Hemoglobinuric nephrosis in a rhea (Rhea americana)
Alex J. Bermudez and Brett A. Hopkins 661

Guidelines for Authors 666

CONTENTS—OCTOBER–DECEMBER 1995

1995 AAAP Awards 669

Histopathology and epidemiology of condemnations due to squamous cell carcinoma in broiler chickens in North Carolina
DANIEL WEINSTOCK, MARIA T. CORREA, DAVID V. RIVES, AND DENNIS P. WAGES 676

Determination of optimum formulation of a novel infectious bursal disease virus (IBDV) vaccine constructed by mixing bursal disease antibody with IBDV .... C. E. WHITFILL, E. E. HADDAD, C. A. RICKS, J. K. SKEELES, L. A. NEWBERRY, J. N. BEASLEY, P. D. ANDREWS, J. A. THOMA, AND P. S. WAKENELL 687

Failure of maternally derived yolk IgG to reach detectable concentrations in the sera of nestling budgerigars (Melopsittacus undulatus)
D. N. PHALEN, V. G. WILSON, AND D. L. GRAHAM 700

Eimeria tenella and E. acervulina: differences in ability to elicit cross-species protection as compared with the turkey coccidium, E. adenoeides
P. C. AUGUSTINE AND H. D. DANFORTH 709

In vitro studies of Campylobacter jejuni/coli strains from hens and humans regarding adherence, invasiveness, and toxigenicity
GUN-BRITT LINDBLOM AND BERTIL KAIJSER 718

Immunosuppressive potential and pathogenicity of an avian adenovirus isolate involved in hydropericardium syndrome in broilers
K. NAEEM, T. NIAZI, S. A. MALIK, AND A. H. CHEEMA 723

Application of polymerase chain reaction with arbitrary primers to strain identification of Mycoplasma gallisepticum
H. H. FAN, S. H. KLEVEN, AND M. W. JACKWOOD 729

B cells and T-lymphocyte subsets of the head-associated lymphoid tissues of the chicken .....D. M. MASLAK AND D. L. REYNOLDS 736

Effect of serotype 2 and 3 Marek's disease vaccines on the development of avian leukosis virus-induced pre-neoplastic bursal follicles
JUDY D. MARSH, LARRY D. BACON, AND ALY M. FADLY 743

Embryo vaccination of chickens with infectious bronchitis virus: histologic and ultrastructural lesion response and immunologic response to vaccination ..... PATRICIA S. WAKENELL, JAGDEV M. SHARMA, AND RONALD F. SLOCOMBE 752

Studies of intraspecies heterogeneity of Mycoplasma synoviae, M. meleagridis, and M. iowae with arbitrarily primed polymerase chain reaction
H. H. FAN, S. H. KLEVEN, AND M. W. JACKWOOD 766

Pathogenicity and persistence of Salmonella enteritidis and egg contamination in normal and infectious bursal disease virus-infected leghorn chicks
R. A. PHILLIPS AND H. M. OPITZ 778

The identification of an 18,000-molecular-weight antigen specific to big liver and spleen disease
V. A. McAlinden, A. J. Douglas, F. McNeilly, and D. Todd 788

Quantification of experimental Salmonella enteritidis carrier state in B13 leghorn chicks ..... Marion Duchet-Suchaux, Patrick Léchopier, José Marly, Philippe Bernardet, Rémi Delaunay, and Pierre Pardon 796

Avian mycoplasma identification using polymerase chain reaction amplicon and restriction fragment length polymorphism analysis
L. H. Lauerman, A. R. Chilina, J. A. Closser, and D. Johansen 804

A genetic hybrid of the Campylobacter jejuni flaA gene with LT-B of Escherichia coli and assessment of the efficacy of the hybrid protein as an oral chicken vaccine ..... C. A. Khoury and R. J. Meinersmann 812

Experimental reduction of eggshell conductance during incubation. I. effect on the susceptibility to ascites syndrome
T. W. Odom, L. M. Rosenbaum, and J. S. Jeffrey 821

Evaluation of enrofloxacin against egg transmission of Mycoplasma gallisepticum ..... A. Ortiz, R. Froyman, and S. H. Kleven 830

Ascaridia dissimilis larval migration associated with enteritis and low market weights in meat turkeys ..... D. H. Willoughby, A. A. Bickford, B. R. Charlton, G. L. Cooper, and J. A. Linares 837

Comparison of virus replication efficiency in lymphoid tissues among three infectious bursal disease virus strains
Kenji Tsukamoto, Nobuhiko Tanimura, Masaji Mase, and Kunitoshi Imai 844

Intratracheal infection of chickens with Salmonella enteritidis and the effect of feed and water deprivation
Masayuki Nakamura, Noriyuki Nagamine, Toshio Takahashi, Mari Norimatsu, Shoko Suzuki, and Shizuo Sato 853

In vivo role of tumor necrosis-like factor in Eimeria tenella infection
Shuping Zhang, Hyun S. Lillehoj, and M. D. Ruff 859

Invasion of caco-2 cells by Salmonella typhimurium (Copenhagen) isolates from healthy and sick chickens
Theodore J. Kottom, Lisa K. Nolan, and John Brown 867

Identification of Salmonella enteritidis from experimentally infected hens using a colorimetric DNA hybridization method
P. F. Cotter, J. E. Murphy, J. D. Klinger, and R. L. Taylor, Jr. 873

Effects of fusarium moniliforme culture material containing known levels of fumonisin B_1 in ducklings
A. J. Bermudez, D. R. Ledoux, and G. E. Rottinghaus 879

A sequential histopathologic and immunocytochemical study of chickens, turkey poults, and broiler breeders experimentally infected with turkey rhinotracheitis virus
N. MAJÓ, G. M. ALLAN, C. J. O'LOAN, A. PAGÈS, AND A. J. RAMIS 887

Research Note—
Production of avian polyomavirus seronegative budgerigars (Melopsittacus undulatus) from seropositive adults
D. N. PHALEN, B. G. WILSON, AND D. L. GRAHAM 897

Case Reports—
Efficacy of miconazole nitrate against favus in oriental breed chickens
FRANCINE A. BRADLEY, A. A. BICKFORD, AND RICHARD L. WALKER 900

An atypical fowl pox outbreak in broilers in southern Brazil
A. BACK, R. A. SONCINI, O. RUTHES, S. MADUREIRA, JR., AND R. FLORES 902

Debilitating cutaneous poxvirus lesions on two captive houbara bustards (Chlamydotis undulata)
STEPHANE OSTROWSKI, GERRY M. DORRESTEIN, MARC ANCRENAZ, AND MICHEL SAINT-JALME 907

Natural infection with attaching and effacing Escherichia coli (O 103:H$^-$) in chicks
H. FUKUI, M. SUEYOSHI, M. HARITANI, M. NAKAZAWA, S. NAITOH, H. TANI, AND Y. UDA 912

Esophageal trichomoniasis in chickens ..... D. H. WILLOUGHBY, A. A. BICKFORD, B. R. CHARLTON, AND G. L. COOPER 919

Dual infection of chickens with pox and infectious laryngotracheitis (ILT) confirmed with specific pox and ILT DNA dot-blot hybridization assays
OLUFEMI O. FATUNMBI, WILLE M. REED, DWIGHT L. SCHWARTZ, AND DEOKI N. TRIPATHY 925

Guidelines for Authors 931

Tables of Contents, 1995 933

Index 941